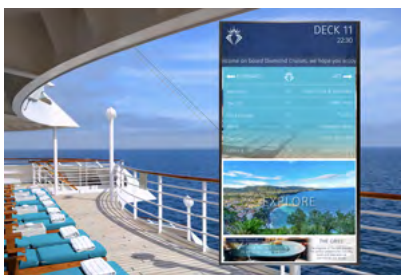


# Video Delivery Using Satellite Based Internet Services

CRUISE AND MARITIME APPLICATIONS



The introduction of affordable satellite-based internet services (such as Starlink, OneWeb and more), have the potential to meet several key needs and offer significant business opportunities for cruise companies and clients in the maritime industry.

Guests embarking on an ocean cruise journey, a maritime crew working in a cargo ship or oil offshore drilling platform can now benefit from internet services in several different ways such as:

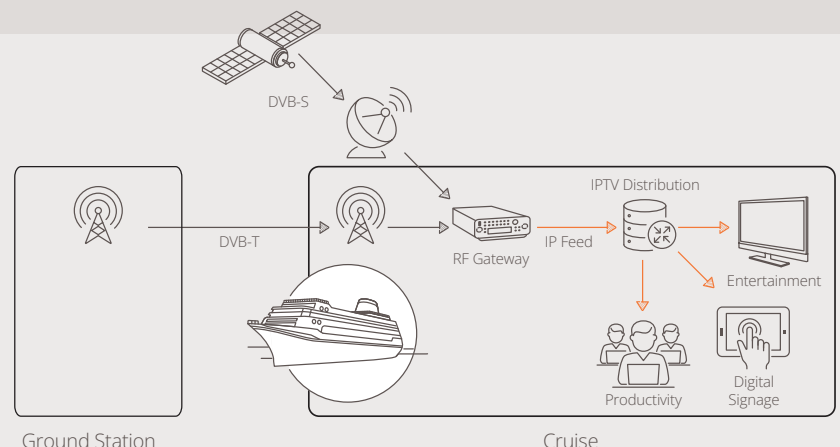
- Stay connected
- Enhanced Entertainment experiences
- Work and productivity
- Navigation and information

To the cruise and maritime operators, the satellite-based internet services can offer several new opportunities such as:

- Global coverage
- Guest satisfaction
- Crew welfare
- Remote operations
- Revenue generation
- Services efficiency and cost saving

## Traditional IPTV delivery on vessels

The VITEC video solution for Live TV distribution on vessels for guests and crew members generally relies on the use of an RF gateway to receive TV feeds from satellite or terrestrial. Feeds are then distributed over IP within the vessel for access using SmartTV, tablet, set top boxes and more. Digital Signage can also be provided as part of the solution.



## The VITEC video delivery also allows streaming of content from the on-shore station to the off-shore vessels

With the rise of internet over satellite, its affordability, and thanks to the relatively high bandwidth available, TV feeds can now be reliably received via the internet. This solution can be used as a back-up of the legacy satellite services or as a main solution for the streaming of content.

Depending on the services needed and bandwidth available, cruise and maritime clients can use a high bit rate or low bit rate VITEC solution shown in the diagrams below.

### Content rights agnostic service

The flexibility and easy management of VITEC solutions allow the video delivery to be content agnostic therefore the cruise and maritime operators can subscribe and use the content rights depending on the region they are switching from one service to the other in a fast manner. The content rights offer is not included by VITEC.

On top of providing highly reliable and efficient RF gateways, the comprehensive VITEC video delivery solution over the internet is based on the smart IP gateway (ChannelLink) and its scalable IP Transcoder (PRISM). The solution delivers:

- Live low latency contribution of TV feeds
- Reliable content delivery using transport protocol protection
- End-to-End Content protection using VITEC AES encryption
- High Availability for enhanced quality of service
- Optimal use of the available bandwidth reducing overall network traffic and power consumption
- Bit-rate optimisation to accommodate available bandwidth or reduce operational cost.

